

Abstract

The invention relates to a continuous flow dual axis bioreactor (10) for growing three-dimensional cell or tissue cultures. The bioreactor (10) includes a chamber (12) adapted to contain a three-dimensional matrix for growing three-dimensional cell or tissue cultures. A rotatable plate (14) supports the chamber (12) and is rotatable about a vertical axis (16). The rotatable plate (14) is supported on an rotary L-shaped bracket (20) that rotates about a horizontal axis (22). Two multi-flow fluid connectors (32,34) are provided to prevent any pipes connecting the chamber to a feed source or a product tank from being entangled and to allow continuous flow to and from the bioreactor (10).

Two servo motors (86a,86b) are provided to respectively rotate the rotary plate (14) and the rotary L-shaped bracket 20 and thereby simultaneously rotate the chamber (12) about the vertical and horizontal axes (16,22) during growth of a three-dimensional cell or tissue culture.

20

A system and method for growing three-dimensional cell or tissue cultures is also disclosed.